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STATE COUNCIL OF CIVIL DEFENSE
MAIN CAPITOL BUILDING
HARRISBURG, PENNSYLVANIA

January 13, 1955

INFORMATION CIRCULAR NO. 59

IMMEDIATE RELEASE

PLANNING FOR INSTALLATION OF PUBLIC WARNING DEVICE SYSTEMS
(Supplementing Information Circular No. 20, dated March 3, 1952)

1. Many county and local civil defense organizations are now planning installation, or revision, of public warning device systems. For possible use as a guide in this work, a table on estimated "siren coverage" costs is hereto attached.

2. Other helpful information relative to the installation of public warning device systems is to be found in:

(a) "Outdoor Warning Device Systems", Federal Civil Defense Administration Technical Manual TM-4-1, dated October 1951. County Civil Defense Directors previously were furnished with copies of this publication (See Paragraph 15 of Information Circular No. 20).

(b) "Federal Contributions", Federal Civil Defense Administration Manual M25-1 (Revised), dated October 1954. Copies of this publication recently were mailed to all County Civil Defense Directors.

3. Public warning devices are approvable for purchase under the current federal matching fund program for civil defense. Organizations making application for federal funds for use in the purchase of public warning devices should bear in mind the following essential facts:

(a) The only public warning devices approvable for purchase under the matching fund program are those of the types listed in Annex 5-B of "Federal Contributions", Federal Civil Defense Administration Manual M25-1 (Revised), dated October 1954.

(b) All warning device system matching fund requests from political subdivisions outside the so-called "target areas" as defined by the Federal Civil Defense Administration must be accompanied by "justification statements" (See "Federal Contributions", M25-1 (Revised) October 1954, Chapter 5, Paragraph 5.3).

4. Individuals planning the installation of public warning device systems usually will require technical assistance and advice. Where municipal engineers are not available for consultation, local industrial organizations and public utility companies often will be glad to furnish civil defense officials with engineering advice and assistance.

Richard Gerstell

Richard Gerstell
Director of Civil Defense

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ESTIMATED RELATIVE "SIREN COVERAGE" COSTS

(Based on data provided by Federal Civil Defense Administration)

SIREN POWER OR RATING	ESTIMATED "COVERAGE" RADIUS	ESTIMATED "COVERAGE" AREA	ESTIMATED AVERAGE COST PER SIREN	ESTIMATED AVERAGE COST PER SQ. MILE
	70 db Noise & 8 db Carrying Ability			
2 HP (100 db)	1,380 feet	0.20 sq. miles	$ 500.00	$ 2,500.00
5 HP (105 db)	2,000 "	0.48 " "	650.00	1,312.00
10 HP (115 db)	5,000 "	2.6 " "	1,000.00	383.00
125 db	12,000 "	15.0 " "	3,500.00	233.00
135 db	-----	85.0 " "	8,000.00	92.00
	70 db Noise & 10 db Carrying Ability			
2 HP (100 db)	810 feet	0.07 sq. miles	$ 500.00	$ 7,042.00
5 HP (105 db)	1,170 "	0.14 " "	650.00	4,643.00
10 HP (115 db)	2,330 "	0.56 " "	1,000.00	1,786.00
125 db	4,500 "	9.2 " "	3,500.00	1,591.00
135 db	9,000 "	9.0 " "	8,000.00	888.00
	80 db Noise & 10 db Carrying Ability			
2 HP (100 db)	420 feet	0.02 sq. miles	$ 500.00	$ 27,778.00
5 HP (105 db)	580 "	0.04 " "	650.00	18,571.00
10 HP (115 db)	1,170 "	0.14 " "	1,000.00	7,143.00
125 db	2,330 "	0.56 " "	3,500.00	6,250.00
135 db	4,500 "	2.20 " "	8,000.00	3,636.00

Notes: (A) Detailed information concerning decible ratings, noise levels, carrying ability and other factors incorporated in the above table may be found in the following two publications of the Federal Civil Defense Administration: "Outdoor Warning Device Systems", TM-4-1, dated October 1951; and "Federal Contributions", Manual M25-1 (Revised), dated October 1954.

(B) The "Estimated Average Cost per Siren" figures presented above include estimated purchase and installation costs, but not "central control circuit" costs.

(C) The "70 db Noise & 8 db Carrying Ability" figures presented above apply basically to residential, or "relatively quiet", areas. They should not be considered as generally applicable to large towns or cities (See Annex 5-E of "Federal Contributions").

(D) Because of unavoidable "overlap" of coverage by adjacent sirens, the above figures on "Estimated Average Cost per Square Mile" are not suited for use in preparing detailed estimates of actual installation costs. The "overlap" factor has, however, little effect on the relative cost of coverage by large versus small sirens.

(E) The principal fact disclosed by the data presented above is that, in general, the cost per unit of area covered decreases rapidly with an increase in siren power. This, of course, means that if areas of appreciable size are to be covered, substantial economies usually can be realized by using large rather than small sirens. As indicated by the data, such economies may be very large in "noisy areas" and extremely large in "quieter areas".

(F) Where the area to be covered is comparatively small, narrow or irregularly shaped, the "wasted" coverage by large sirens may possibly render the use of small sirens more economical. In these instances, the cost of coverage by both small and large sirens, or a combination of the two, should carefully be computed by means of "map layouts".